

Virginia Wildlife

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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

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Wild turkey by Dianne Higgason, Aylett. Spring gobblers season begins next month, but hunters no doubt have visions of turkeys dancing in their heads already. Read about a new tool in wildlife management being used to track wild turkeys in Virginia, page 32.
Back cover: National Wildlife Week begins March 14; this is the Year of the Eagle.

Letters

Special Issue: Yeas and Nays

I want to congratulate you on the January 1982 issue of *Virginia Wildlife*; it is the worst I have ever had in over 10 years. I did not find one page interesting enough to complete the whole page.

Two of the most popular things were the cover and the bird of the month. January had a lousy cover and no bird of the month.

For your information, I have given 70 to 100 gift subscriptions for eight years so I think I have a right to complain.

Rue Parker, Jr.
Whitestone

The January issue was the most unattractive, uninteresting issue I have seen. (And I have just given subscriptions to my friends!)

If this is your new format, please go back to the old one.

A. W. Dykers, Jr.
Richmond

We're sorry that you did not find anything of merit in the January 1982 special issue. We believed—and still do—that wildlife lovers should know the entire wildlife story, and that includes informing the public of this agency's mission and exactly how it is carried out. While some of the material may seem a bit technical or dry to some, we tried to present it in such a way that everyone would find something of interest in the magazine. Apparently, we didn't pull it off for you.

No, this is not the "new format," as Harry Gillam explained in his December editorial. But you can expect to see wildlife management and enforcement articles in *Virginia Wildlife* on a regular basis. They may not be as exciting to you as fishing, hunting and adventure articles—but without the work of the biologists and enforcement officers of the Game Commission, Virginia's citizens might not be able to enjoy the outdoors to the extent that they are able today—and there would

be no adventure to write about.—
Assistant Editor

I should like to congratulate you and your entire staff for the excellent job which was done with the special January 1982 issue of *Virginia Wildlife*.

I believe that this issue does more than anything else which I have seen to indicate to the general public the diversity of the Commission's programs and activities. It will certainly have a very positive effect on those programs.

I sincerely hope that this issue will receive the widest possible circulation. I am certain that it will receive wide acclaim.

Mitchell A. Byrd
Professor of Biology
The College of William and Mary

Rifle or Shotgun?

I am writing in reference to the caption on page 30 ("Outdoor Notebook," November 1981) about the nine-year-old girl who bagged her first deer in Grange Hall Hunt Club in Chesterfield County. It appears in the picture that the girl was holding a rifle. According to the 1981 game laws, it is illegal to use a rifle for deerhunting in Chesterfield County. I was curious about whether or not she actually used a shotgun.

Greg Reese
Rocky Mount

You're right on two counts: it is illegal to hunt deer with a rifle in Chesterfield County, and the gun that the girl is holding looks like a rifle. However, it is a shotgun. We checked a gun catalog to be sure.—Assistant Editor

Shrinking Deer Herd?

I have hunted in Virginia for forty years and I must say the quantity of game has increased in those years.

However, I feel the deer are in trouble—not in numbers, but in size and quality. I would be the first to agree, there are some good bucks, but it is like taking the herd bull. For example, I took a beautiful eight-pointer this year, but deep in my heart I am concerned about it, due to the fact the other eight bucks I observed later in the season were very small, with little pencil horns, very erratic shapes, and far too many spikes. I have read somewhere that this could be chemical. If this is true, I know every hunter, resident and non-resident, would cooperate and help you if your people could come up with a program to help correct this.

Over the years, the time I have spent in the mountains of Virginia has meant so much to me. I have seen so many beautiful things and if I never get to the mountains again, I have been blessed for the years I did go and I trust your department will continue to be one of the best, as I want my grandchildren and their children to enjoy the mountains. It just makes life so much better.

Thanks so much for a good magazine; every month it is like a "mini-visit" back to the mountains.

G. Bennett
Wurtland, Kentucky

Thank you for your letter and your concern about Virginia's deer population. Bob Duncan, field coordinator for the Commission's game division, notes that there was a record deer harvest in the area you cite this year, and believes that the deer herd is in good shape. Please be assured that the game division keeps a close watch on deer and other wildlife in Virginia.

Your letter, as well as the check you enclosed for the non-game program, confirm our belief that sportsmen—true sportsmen—are among wildlife's staunchest defenders, far from the greedy, thoughtless prototype that some would have us believe in.—Assistant Editor.



Alice Hatch

Mallards Versus Blacks: A Storm in the East

Controversy rages over mallards in the East—why are they on the increase, while black ducks continue to decline? Can we manage our way back to balanced duck populations?

by Robert M. Alison

The winter of 1981 was a memorable one for many reasons. In the annals of waterfowl management, it will stand out as the first time the mid-winter mallard population in the Atlantic Flyway broke the 300,000 mark.

For some reason, in that winter, mallards showed a 36 percent increase in the Flyway. It was a remarkable gain. And nobody seems to be able to explain it.

Black ducks, on the other hand, were a distant second. Survey crews were only able to come up with some 240,000 of them—a mere 16 percent increase over 1980.

Of course, even in 1980, mallards outnumbered blacks in the mid-winter inventory in the East—but only by 10,000 or so. In 1981, the difference was a whopping 40,000.

According to Warren Blandin, Atlantic Flyway biologist with the Fish and Wildlife Service at Laurel, Maryland, this year's count produced some strange results. For one thing, severe conditions caused many birds to concentrate in places where they were easily counted. That was not the case in 1980, and other open years, when they were really spread out.

So, the 1981 count was generally higher than 1980. But that does not explain the phenomenal jump in mallard numbers.

The 15-year average mallard figure for the Flyway is about 200,000 birds. So that means a 50 percent increase in one year.

Waterfowl managers have been nervous about mallards in the Flyway for years. For some reason, they think mallards are responsible for the recent poor showing of black ducks, that mallards are some sort of invading cancer threatening the future of the black. And they have been quick to react.

At first, they limited themselves to relatively minor condemnation of mallards, claiming they had no business in black duck country. Of course, mallards paid no attention.

Then, the Atlantic Flyway decided to promote mallard hunting with liberal bag limits, while cutting back on black duck bag limits. But that didn't work very well either. Mallards continued to increase—and black duck numbers fell off.

Nobody could explain why the differential hunting regulation failed to stem the growth of the mallard flock—or to stimulate black ducks. After all, it was a proven means of management. But, even as the mallard kill climbed to 17 percent of the total Flyway waterfowl harvest—just about the same as the black duck—managers were still convinced that regulations were the answer, that mallards could be legislated out of the Flyway.

Then, in 1978, flyway biologists attacked the mallard release program. It seems that over 100,000 of them were being released each year in about eight Flyway states, including Maryland, Pennsylvania and New York. That year, the Dabbling Duck Committee recommended "a position of opposing the continued release of game farm mallards to the wild . . ."

It reasoned that game farm stock was diluting wild black duck populations.

Almost immediately, there was a storm of protest. Ted Bampton, Director of the Connecticut Department of Environmental Protection, questioned the legality and practicality of outlawing releases. Dan Cantner, Director

of the West Virginia Department of Natural Resources, agreed with him. But the committee did not budge.

In 1979, it defended its position by claiming that mallard releases are "aesthetically distasteful to many . . . (and) have and continue to increase nuisance, non-migratory, feral mallard flocks."

It was then suggested that game farm black ducks be released instead, that they be used for such things as tower shoots. Nobody bothered to consider that that might produce nuisance, non-migratory, feral black duck flocks.

Were these suggestions serious? It appears they were. If so, they must have been the actions of desperate people. They signaled a dark period in waterfowl management, a period where men and women, struggling to stay afloat in a sea of mallard controversy, grasped aimlessly at straws and bubbles—but steadfastly refused to swim to shore.

Then, sudden stunning news came from eastern Canada—the last solid black duck bastion. Even there, mallards were on the increase. Some 1,500 were taken annually in the late 1970's in Nova Scotia alone. And even in the heart of black duck country in New Brunswick, sportsmen reported that mallards were on the increase. Meanwhile, the Province of Quebec reported that over 70,000 mallards were shot by hunters in 1979. It was a staggering blow. Flyway biologists gagged. They searched for encouraging news—and found none.

Mallards were increasing even in Maine and Rhode Island. Clearly, the management strategies that had been put into place had been completely inadequate. Mainly, that is because they had been based on a couple of faulty assumptions.

First of all, many managers thought that mallards were newly-arrived in the East. They had read accounts by noted waterfowl specialists who claimed mallards were rare in the Flyway in pioneer days. And they had believed those accounts—even though they were nonsense. Some one had not done his homework.

As far back as 1587, Laudonniere found mallards in Florida. And, in 1610, an anonymous author reported that Virginia's "rivers from August or September 'till February are covered with flocks of wildfowl: as . . . ducke, mallard. . ." The next year, Alexander Whitaker said mallards were common in Virginia in winter.

In 1676, Thomas Glover found them in Virginia. And, on November 26, 1701, John Lawson shot "40 ducks and mallards" near Cape Land, North Carolina. He described them as "mallards with green heads in great flocks."

According to Mark Catesby, mallards were in North Carolina and Florida when he visited those spots in 1737.

There is even evidence that mallards were present in Maine, New Brunswick and Nova Scotia as far back as 1672.

By 1896, F. Bates reported they were "very plenty on the inland lakes and rivers," but not in New England so much.

So, mallards are not new to the East. They have been around for four centuries, at least. And it is hard to imagine how anyone could conclude that their coming was a recent event.

The second invalid assumption is that waterfowl management plans can somehow defy the laws of Nature. They cannot.

Black ducks and mallards are, in fact, one and the same. Scientists agree on that. They know it because the two readily interbreed, readily produce hybrid young—and,

most important of all, those young can produce fertile offspring themselves. And that is the primary test for a species. If black ducks and mallards were distinct species, their hybrid offspring should be infertile. But they are not. So, according to the laws of science, mallards and black ducks not only look the same, sound the same and behave in the same manner—they are one and the same. Their only real difference is in plumage. They are just color phases.

And that sheds new light on the mallard controversy. It means that the decline of the black duck is no real decline at all. It means the success of the mallard is not the case of one species replacing another, like one nation overwhelming another by storm. Far from that. What it boils down to is a replacement of one color phase of mallard by another color phase of mallard. And what's wrong with that?

Well, biologically, nothing. But, it generates an emotional problem. Some sportsmen like black ducks. They grew up hunting them. They are part of their heritage. To them, mallards are poor substitutes.

Of course, it is all a matter of taste, a matter of perspective, a matter of personal choice. Nobody likes to see his heritage assaulted. No dedicated black duck hunter wants to see black ducks fade into history—whether or not they are replaced by mallards. But that is a human position not shared by Nature. Mankind abhors change. Nature does not.

The black duck evolved from mallard stock. There can be no doubt of that. It was the result of a set of circumstances. It was a bird produced by a given combination of ecological conditions, a product formed by a certain environmental mould. The trouble is that the mould has been distorted and changed by time, and a number of other factors. And it is churning out a different product—no longer a pure black duck, but a mallard-black duck combination. And that is what waterfowl managers are stewing about.

When they talk about restricting black duck harvest and increasing mallard kill, they are attacking the symptoms of what they view to be a serious disease. But they are not attacking the disease itself.

They should be addressing themselves to the reshaping of that mould, so that it, once again, churns out black ducks—if that is what they want to see happen. Instead, they are zeroing in on the product itself. And that doesn't make too much sense.

Black ducks and mallards share the same nesting requirements over much of their common range. They eat the same food. Their biology is just about identical. But there is one main difference. Black ducks are birds of coastal salt marshes in winter and mallards are not. Curiously, that seems to be just about the only main difference between the two. And it is an important one.

At one time, the vast eastern forests discouraged large-scale mallard movements eastward. But as they were cleared away, the land became more hospitable. In short, it became suited to mallards. Naturally, they moved in. And they continued eastward until they could go no further—blocked off by the great coastal salt marshes that formed a barrier they could not penetrate.

It was those salt marshes that had spawned the black duck, that had segregated it from the mallard.

Both birds pair in winter. And that is the one time of the

year when they are separated from each other—at least, that was the case historically. Black ducks paired in the salt marshes where there were not many mallards. And mallards paired inland, where blacks were scarce. So hybrid pairs were uncommon. And the two pure stocks remained intact.

But then, the salt marshes began to be degraded by development. They were burned and cut and ploughed under. And, acre by acre, they gave way. Black ducks were crammed into the few that remained. They were squeezed from black duck wintering habitat into more mallard wintering habitat. And black-mallard pairs naturally formed. And why not? Mallards saw nothing improper about pairing with blacks—or vice versa. It was as if the flood gates had been thrown open. For the first time in history, the black duck population was vulnerable, not to over-hunting, but to genetic swamping.

To this day, the coastal habitat is being destroyed at the annual rate of about two percent—coincidentally, at precisely the same rate of decline shared by the black ducks themselves.

Inevitably, as the black duck winter habitat goes, so goes the black duck. When the black duck producing mould has been shaped so as to produce mallards, it is ridiculous to hope that black ducks will somehow be churned out. When black duck habitat becomes mallard habitat, it is only common sense that mallards will move in and black ducks will move out. And no amount of hunting regulation-fixing can alter that.

It is not a matter of cutting down on black duck kill or increasing mallard kill. Mallards are booming in the East because the East is now a mallard paradise. And it is becoming fast inhospitable to black ducks. So, naturally, they are thinning out. And to expect that not to happen is a little like draining the pond and expecting the fish to remain healthy.

Clearly, if you want the fish, you manicure the pond. In the same way, if you want black ducks, you manicure their habitat. If you want to increase black ducks, you must build up the salt marshes. If you want historic levels of blacks, then you must turn the clock back to the time when salt marshes abounded.

If North Americans are not prepared to do that, they might as well accept that the black duck will slip away—and the mallard will fill its place. And it is biological foolishness to expect that, when one creates mallard habitat, mallards will not move in to occupy it. No amount of legislation or committee recommendations can change that.

Why are mallards doing well in the East? Because the East has been transformed into a mallard Garden of Eden.

And to expect to change all that by releasing game farm black ducks, or by outlawing releases of game farm mallards, is utter folly. Releasing black ducks in much of the East would be about as successful an endeavour as releasing wild turkeys in Greenland.

Mallards are here—and they are here to stay, whether waterfowl managers like it or not. That is because the only corrective measure—that of reclaiming vast tracts of salt marsh, of turning prime cropland and industrial sites back into pristine conditions—is impossible to implement on a large scale.

Unfortunately, many waterfowl managers don't seem to be able to grasp that shred of reality. □

I Fish Jennings Creek

It's not legendary trout water, but after opening day, it's satisfying fare for the avid angler.

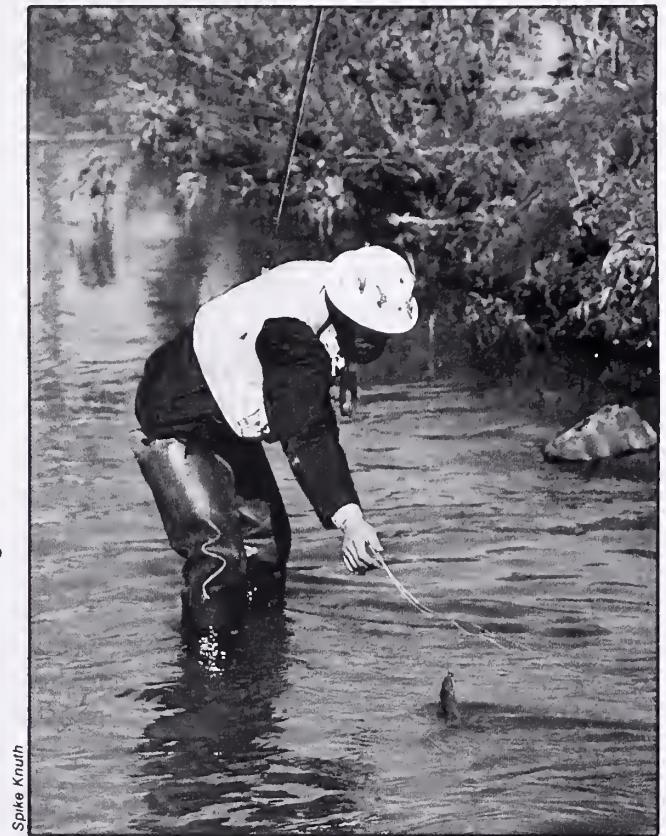
by Mark Mullen

Water tumbled down the mountain side. As it reached the foot of the mountain, it became a splendid stream loaded with clear, deep pools, swift runs, swirling eddies, and deep pockets along the ledges. It was the perfect spot to fish for my quarry, the elusive brown trout, as he swims about looking for his favorite quarry—minnows. A small gold spinner would bring me all the action I could ask for.

At my favorite fishing hole, I can always count on a decent strike to start the day. As the stream pushed clear of a rock bluff, the water below eddied around some big rocks. I approached the stream cautiously and flicked my spinner above the rocks. It was caught in the current and as it started by the rocks there was a golden flash, followed by an immediate response on the rod. Four pounds of infuriated brown trout cleared the water in his first gallant effort to escape. He hung there momentarily as if to study the human who had so much pressure on him. Back into the water, he came boring broadside in the current. Finally, the rod and current took their toll, and in he came. I scooped him up in my net and admired the 18½-inch beauty. As I stared at his vivid colors, a feeling of sadness came over me. I took a picture quickly, then put him back into the stream. Suddenly, the brown realized he was free and wasted no time reaching the shelter of his rock.

My stream isn't the Madison, Firehole, the Big Hole or any of the other famous rivers in which trout abound. I fish Jennings Creek in Botetourt County. On opening day you'd be lucky to see the water, much less fish it, so I wait until later in the season when I can have it to myself.

Jennings Creek comes directly out of cold mountain springs and out of North and Middle Creeks which have some nice trout in them. This creek is fairly large, having some really deep pools that harbor carry-over trout from seasons past.



Spike Knuth

As I went from pool to pool, I picked up several nice trout which went on my stringer. When I came back to my starting point, I had placed on my stringer four trout that ranged from 12 to 14 inches. Farther down which to use a flyrod. Dry flies work best for me. Good dries include Light Cahill, Professor, Black Gnat, White Miller and the Royal Coachman (not necessarily in that order). Wet flies have seldom produced for me, but Mickey Finn and Muddler Minnows are good streamers to use.

The tackle to use is a light spinning reel loaded with six-pound test line. The line should not be lighter because some big brood trout are stocked. It is a good stream on which to use a flyrod. Dry flies work best for me. Good dries include Light Cahill, Professor, Black Gnat, White Miller and the Royal Coachman (not necessarily in that order). Wet flies have seldom produced for me, but Mickey Finn and Muddler Minnows are good streamers to use.

For the bait fisherman, worms, corn, salmon eggs, and minnows will all take fish. But when you use these baits, horney heads and chubs will want to get in on the show. The man who enjoys tossing artificial lures should try spinners, spoons and small plugs. I use a No. 1 Mepps Aglia for trout.

Hip boots are really all you'll need for wading except in a few pools that are deep or in riffles where slippery rocks abound. Much to my dismay, I have gone in over my waders more times than I wish to remember.

The creek is located in the Jefferson National Forest, just outside of Arcadia on Interstate 81. If you decide to camp, there are campgrounds on North and Middle Creeks, and in Campbellsville Park. Don't forget, if you fish in National Forest waters you'll need a National Forest Stamp along with the regular trout and fishing licenses. Maybe we'll see each other there. □

by Tony Decker

Cattails

These may well be the most versatile plants in the marsh.



In many wet environments, the cattail is the most conspicuous plant, often covering large areas of the shallow margins of lakes, ponds, and sluggish streams. Its flowers, often used in dry arrangements, are not readily confused with anything else. As food and cover for wildlife, it is a hard plant to beat.

There are four species in Virginia, but most familiar of these plants of the family *Typhaceae* are the common cattail, *Typha latifolia*, of fresh water distribution, and the narrow-leaved cattail, *Typha angustifolia*, of brackish water habitats mainly on the coast.

Although the common cattail looks like a very large grass, it isn't one. Leaves vary from about three to nine feet in height. The equally tall flower head, often described as "sausage-like," has a dense mass of pistillate (female) flowers about two to eight inches long, which look and feel like brown velvet, and is topped by a smaller mass of staminate (male) flowers. Once the pollen is dispersed, the male flowers disappear, leaving the typical cattail head that is so familiar to most people. In the narrow-leaved species, there is a gap of an inch or two between the two sexes of flowers.

The ripened seeds are wind-dispersed on attached filaments of "cotton" and can be carried very long distances. Any body of water with the proper shallows and a source of seed will surely be colonized by cattails in time. About four years after being filled with water, Rural Retreat Lake in Wythe County began showing new cattail plants.

Cattail marshes are productive wildlife areas that provide cover, nesting, and roosting places, as well as food. Red-winged blackbird males stake out territories by singing from high perches and displaying their red shoulder bars, while their consorts—usually two to four females—divide his territory among them and defend it vigorously from other females. Marsh wrens are another species usu-

ally confined to cattail marshes. The various species of rails also often favor cattails. In fact, these odd and secretive birds are laterally compressed so they can move easily between the stems and blades of cattails, sedges, and rushes which make up their usual habitat. The term "thin as a rail" derives from this physical characteristic of rails, and not, as is often believed, from a fence rail.

The animal most dependent on cattails is probably the muskrat. This aquatic animal constructs dome-shaped dens of mud and cattail leaves. It also builds floating platforms of leaves upon which it rests while eating its favored food, cattail roots and stems. Biologists and trappers can easily tell when there are too many muskrats in a marsh by their tendency to clear entire areas in what are called "eat-outs." The indicated cure is more intensive trapping to reduce the population. The value of the muskrat fur is of major importance in the fur industry.

Cattails have also directly served mankind well. In earlier times they were used as food, since the lower part of the stem and the roots contain nearly pure starch. Cattails were a staple of some Indian tribes. In fact, today's wild food enthusiasts continue to use cattails this way. Easily pulled up, the lower stems and roots can be eaten raw or roasted on hot coals. The pioneers wove the leaves into mats, and used them as floor coverings to throw loose on the dirt floors of their cabins. The "cotton" of the ripe flowers was used as a quick tinder for fire-starting back in the days of flint and steel. Many a boot has been made warmer on a cold winter day with a lining of this down.

Virginia's wetlands would be much poorer without the attractive and ecologically important cattails which are native over most of the state. □

Tony Decker of Marion is a regular contributor to Virginia Wildlife with articles like "A Look at Laurel Bed's Wildlife" (July 1980).

A fisherman cast his line to the water's edge at the south bank. The line went taut and the water splashed.

"Don't take my picture catching a brim," he yelled jokingly to a photographer watching from an old stone bridge constructed across the South Anna River more than a century ago.

The fisherman and a friend had been floating the river from state Route 54 bridge in Hanover County since early morning. It was afternoon now and they said they had caught about 50 bass and brim in the rippling waters of the waterway, so thickly enclosed with curving trees that it gives the appearance of a river running through a tunnel of picturesque foliage.

"We just catch them and throw them back," explained one of the fishermen. "The fun is in catching them."

William Byrd of Westover, who founded the City of Richmond, called this the South Branch of the Pamunkey River. From its source near the Louisa-Albermarle County line, several small streams branch out like the fingers of an

open hand. From there, the river twists its way across the Piedmont through Louisa and Hanover Counties, crosses the fall line and joins the North Anna River to form the Pamunkey about four miles east of Interstate 95 in northern Hanover County.

The river passes through the land of Patrick Henry where more than a dozen grist mills have operated on it at one time or another since the eighteenth century.

It is one of the most beautiful rivers in the state—free of the pollutants that have adversely affected some rivers in Virginia. It is pocked with swimming holes in which generations of children have learned to tread water. The river is a water source for hundreds of farms and a haven for wildlife—it is not uncommon for the leisurely fisherman or canoeist to see a deer taking a drink of water from the river—and it is a popular site for introducing novice canoeists to their first taste of short stretches of white water with rapids up to class 2.

Henry F. Dial, Jr., a Richmond member of the Coastal



Touring the South Anna

A ride down the South Anna River is fishing, swimming, and canoeing in a Virginia time capsule.

Canoe Club, described the South Anna as "an ideal river" in which to take the novice canoeist from pond and lake canoeing to experience light white water canoeing.

"The beauty of the South Anna. . . is that it has county roads crossing it about every five miles in Hanover County, giving easy access," Dial explained. The access also makes the river ideal for fishing.

Outdoor clubs of colleges as far away as Williamsburg use the South Anna as a training ground for novice canoeists. One of the most popular stretches of its 101.2-mile length for both fishermen and canoeists is where state Route 33 crosses the river in Hanover County.

From there begins a pleasant five-mile trip of placid water and short stretches of white water, to an easy exit point at state Route 54, explained Dial. But if the fisherman or canoeist doesn't want to stop there, he or she can continue another mile downriver to the one-lane, stone Horseshoe Bridge that was constructed more than a century ago. The bridge gets its name because it crosses the river in the center of a wide horseshoe-shaped turn in the river.

From the Horseshoe Bridge to the river's joining with the North Anna, the water is mostly placid; while this stretch may not be exciting for the canoeist, it is an enjoyable one for the fisherman who is after a relaxing day of small-mouth bass and brim action. (Both fishermen and canoeists should be aware that the trip to the North Anna means portaging around a large mill dam about 100 yards above the U.S. 1 bridge. But getting around the dam on the north bank presents little trouble.)

And for those who are the least bit interested in history, the South Anna River offers plenty of opportunities to explore mill sites.

Still in operation in Louisa County is the Yanceyville Mill, built in the nineteenth century and located beside the river near the town of Louisa. Water from the river still turns a large wheel-and-gear system that powers the stone that grinds corn and wheat into fine-tasting corn meal and flour.

Sometimes referred to as Smith's Mill, the three-story, wooden structure is exclusively powered by water, as it



was when it was constructed according to current owner George Payne.

Payne said that he and J. Edward Smith, Jr., in whose family the mill was owned for three generations, operate the mill a couple of days a week. The mill is open to local residents on Saturdays, "when local farmers bring their wheat and corn by for custom grinding," Payne explained.

Payne welcomes visitors Saturdays, but requests they make their presence known. He and Smith expressed strong concern about protecting the mill and take turns guarding it because of its age and the potential threat of vandalism. (Payne emphasized that persons are not allowed to put in the river at the mill site. He said that 99 percent of the fishermen show respect for the river and the property of landowners along the river. "But there is always that one out of a hundred who doesn't care. Once we found several fishermen had built a fire under the mill to warm themselves. I couldn't believe it. One spark and the mill would have been gone.")

Other mills that have operated on the river and its tributaries during the last two centuries include Paynes', Jones', Bowles', Ruffners', Cloughs', Taylors', Howards', Rocky, Auburn, Crenshaw, Blunt's and Darracot's, now known as Ashland Roller Mill. Like the Yanceyville Mill, the Ashland Roller Mill is still in operation, having been rebuilt from the ashes of a fire over a year ago. The Ashland Roller Mill, however, doesn't operate on water power as it once did, but was converted to electricity to run the grinding machines which produce its nationally-known corn and meal from its site at the U.S. 1 crossing of the South Anna.

Besides the Yanceyville Mill, probably the first mill to be operated along the river was Byrd's Mill. It was built near the town of Louisa in 1740 and was in continuous operation until a fire destroyed it in 1968.

The Crenshaw Mill was constructed about the same time, according to Mrs. Bruce English, a Hanover County historian. It was located on the north bank of the river at



(Facing page) Yanceyville Mill in Louisa County is still powered by water.

(Above) A young boy fishes below the old mill dam that provided water power for the Ashland Roller Mill.

(Left) Depending on your skill, a cast on the South Anna might bring a tangle of floats and tree limbs, or a brilliantly colored brim.

state Route 675 in Hanover. The mill later became known as the Auburn Mill and apparently was operated until the late 1800's. The hand-laid stone walls of at least half of the mill are still standing above a sluiceway back in the woods.

About a mile upriver, Howard's Mill was constructed between 1874 and 1889, when there was a devastating flood, according to county historic records.

Miss Clara Tiller, the granddaughter of the man who constructed the mill, Daniel Howard, recalled that a saw-mill, a blacksmith shop, a general store and a post office were eventually added to the gristmill. Still later, Howard's son, Sands, added a flour mill. The flour mill burned in 1910, but was reconstructed and operated until some time between 1935 and 1945, Miss Tiller says.

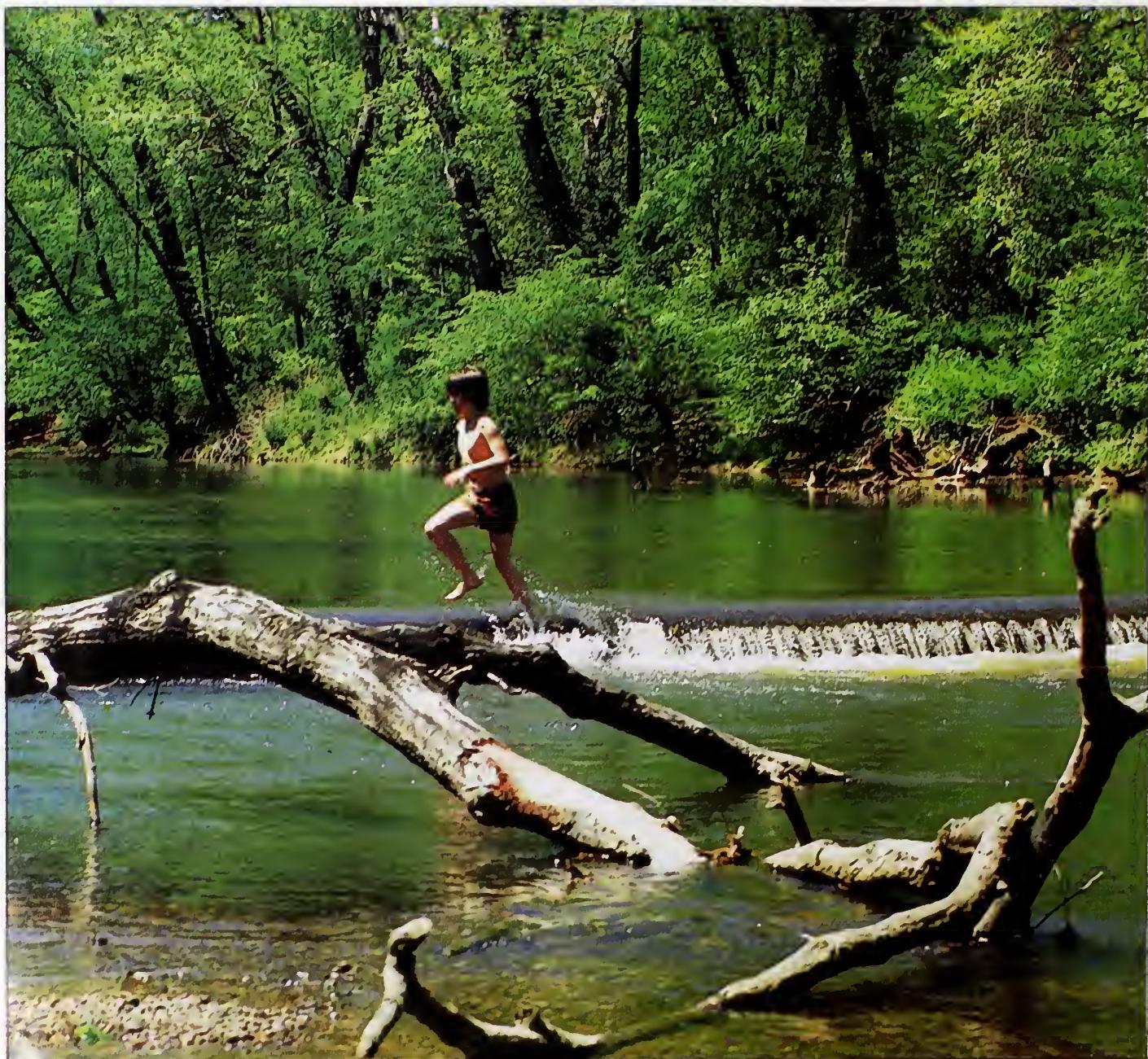
And still located on Taylor's Creek, a few miles from its confluence with the South Anna, is most of the mill building and the intact dam and sluiceway of Taylor's Mill. A small wooden bridge crosses the creek where state Route 611 cuts past the mill. The existing structure—posted

against trespassers—is wood and was built in the 1940's, but there was a mill "of some description there for some time," said Howard L. Attkisson, who is one of the operators of the Ashland Roller Mill.

As one long-time fisherman and canoeist of the South Anna River described it, the river is "one of the finest preserved rivers I have walked or boated in Virginia. Its tree-lined banks give off brilliant color in the fall, cool shade in the summer. The fishing is slow in pace on some days, but then you can just lie back in your boat and enjoy the leisurely drift down the river."

"Although the river is not as accessible in Louisa County, nor as navigable in many stretches as it is in Hanover County, it is well preserved. And most of this has to do with the concern the landowners along the river have had for it." □

David Ryan is a Richmond photographer whose work has appeared in the Times-Dispatch and News Leader, as well as in books about Virginia.



My Hunting Tradition

There are many ways to learn the basics of hunting and firearms safety; perhaps this one is still the best.

by John B. D'Silva

As guns go, it really wasn't much to look at. The stock was scratched and very little blueing was left on the receiver. The barrel was practically worn smooth from the passage of thousand upon thousand of rounds. No, it wasn't much to look at, but it was very special—it was my first .22. And it was a lever action, at that.

Grandma's farm was crawling with a myriad of crows and woodchucks. The sky around the barn was blackened by starlings and the few ratty barn pigeons that roosted on the roof from time to time. It was a hunter's paradise... but I didn't have a gun.

My only real connection with the grown-up world then was an old mountain man with a trace of Indian blood. He spent most of his time visiting old cronies and trading guns. His name was De Witt Hessler and he was the best shot for miles. He drove an old Ford station wagon that looked as battered as he did. He had such a reputation that deer hid low by a barbed wire fence until his vehicle passed before they'd attempt to cross. The back of his old car was always filled with guns to trade. He would come up to Grandma's and show her a rifle or shotgun, sip some of her "medicine," and pass the time of day.

I heard his car pull into the driveway one afternoon, and as usual, I ran out to greet him. He was wearing the same old hat and soft, faded shirt as always. A certain twinkle

lit his eye as he lifted his 73-year-old bones from the cab of the Ford wagon. Reaching into the back, he flipped an old Army blanket aside to reveal several Fox shotguns and a .22 rifle. Carefully he slid the .22 through the window to me—standard procedure—and we walked into the kitchen where Grandma was finishing her afternoon tea.

"Helen," he greeted. "How are you keeping?"

"Just fine, De Witt. What have you got there?"

"Just another .22. Got it from the Beneways."

The Beneways were trappers by trade and old friends of Mr. Hessler.

"I just thought the boy (meaning me) might have need of one now that he's come of age and is all grown up."

Grandma hesitated a second, then took another sip of her tea. I could see that she was buying time.

"I don't know, De Witt. . . ."

"Do you want the boy to grow up ignorant about gun safety, or even how to handle a gun properly?"

"Heavens, no," she answered half jokingly. "Why, I wouldn't want that!"

"Well, then. . . ."

"How much do you want for it?" she said, reaching for a big blue pocketbook that needed a whole chair to hold it up.

"Nothing, Helen, nothing at all. Let's just say I'm passing



Luther Trower

on a tradition that was once passed on to me."

I ran into the kitchen and saw a smile on the old man's weathered face as he sat by the table. I was already petting the rifle—a Marlin Model 39 lever action—and was on the verge of tears when De Witt told me to get my tail outside and scrounge through the glove compartment of his station wagon and see if I could come up with a few boxes of .22s. I did. They were old Winchester Super-X's and the boxes were oily and about to fall apart. But it was fodder for my new acquisition.

I was so happy I could have hugged him, but I knew better. We mountain men don't show our emotions.

The next week was spent learning how to handle the gun safely, how to care for it, and getting a license.

Endless rounds of ammunition were expended on beer cans and learning how to sight in the gun on paper targets. He taught me that it didn't make much sense to take a standing shot at an animal when you could sit. A human is a pretty shaky creature on two legs. And that lying prone or using a natural rest—a tree limb or rock wall—is even better than sitting. The first shot, I was taught, is the most important. You owe that to the animal you're hunting. Succeeding shots meant nothing to the old trapper. He didn't take much stock in people who used semi-automatics and who thought firepower could make up for honest-to-goodness marksmanship.

Those days were filled with enjoyment, and De Witt Hessler had a willing and eager pupil. Now that I'm older and realize how much fun it is to pass on something you know, I realize he probably enjoyed it too.

Once the course was complete to his satisfaction, and he knew I wasn't about to go off and shoot the neighbor's cat, he suggested it was time for the final exam.

And old boar woodchuck was enjoying the fat and easy life of a country gentleman where the edge of the vegetable garden met a large clover field—at Grandma's expense. De Witt had promised her he would settle that old chuck's affairs straight away. Five attempts and as many .22s later, the chuck was still enjoying the life of Riley.

"Now, I've taught you about all I can. The rest you're going to have to learn on your own. I can only tell you my experiences—you can take what you want from them. That old boar woodchuck is no dummy, and he's causing your Grandma a lot of aggravation besides ruining the vegetable garden. I suggest (he always suggested, never told) you take your rifle and see what you can do about it. Mind what I taught you about woodchucks and .22s. Shoot for the ear. A shot there will kill him instantly. They're tough customers. If they were the size of a bear, you'd need a 20 millimeter cannon to stop 'em. They're tough. And so am I. Here."

He handed me a single .22 rifle hollow point.

"That's all you get, one shot."

"But . . ."

"No buts. If you learned anything from me, one shot is all you'll need. If I'm right in my observations, you might be able to bump into him in the late afternoon. It's almost four o'clock now. You'll know him. The late afternoon sun will make his fur look orangey-red. And he's big. If you hit him in the chest or body, he'll make it to his dive hole and die a lingering death. The .22 just isn't powerful enough for a body shot. Sportsmen—and that's what I'm teaching you to be—kill cleanly and don't try to make a rifle do what it wasn't designed to do. So get as close as you can and place that shot perfectly. Don't squeeze the trigger until you're sure of a clean kill. If you don't, your Grandma here might think I was a bad influence and teacher and take your gun away. Good luck, son, and mind what I taught you!"

I took the cartridge and looked at the old man. I felt proud that he trusted me, but I was anxious because I didn't want to fail him. I had never had a grown person put so much faith in me. I swore I wasn't going to let him down.

The summer sun was still in the sky, but beginning to set that late afternoon. Looking back at the main house from my hilltop position, I could see Grandma sitting by the window at the kitchen table. Occasionally I could see her glance in my direction. I wondered what she was thinking about. When I returned my gaze to the clover field, a dark form took shape. It was the woodchuck! I froze. Although I was sprawled on my belly, I was still shaking enough to start an earthquake. Call it woodchuck fever if you will, and I had a full case of it. The rifle was empty. I slowly reached into my shirt pocket for the single .22 long rifle. The chuck dropped to all fours and began to nibble at the juicy green clover. Mosquitoes that never bothered to come out in the hot sun were now swarming about my head in full force. I could swear they had four motors. They swarmed over my arm, biting, but I didn't move. They landed on my neck and forehead to feast. Still, I didn't move. I began to sweat and wondered when all this would end. Suddenly, the chuck stood up on his hind legs. I could only see his shoulders and head. He disappeared once again into the deep clover. I dropped the cartridge into the open action and levered it into the chamber, then dropped the hammer to half-cock. Now for the stalk.

He was well within range when he showed himself again—about 50 yards. But I wanted to be sure. So much was riding on my one shot that I wasn't going to pull the trigger until I was positive I could place the bullet exactly where I wanted to. We, the chuck and I, began playing a game of hide-and-sneak. When he dropped down to feed, I'd crawl closer on my elbows and knees. When he stood up to survey the area, I froze with my face to the ground. Half an hour the game continued. I closed the distance to 20 yards or so before I was satisfied that now was the time. The clover was too high to take a shot from the prone position. I would have to take him sitting.

Up popped his head. I could make out his beady eye. I swear he was looking through me when he disappeared into the clover and continued to feed. It was now or never. Swinging into a sitting position, I hooked my elbows over the tops of my knees, cocked the hammer and pointed the rifle in the direction I'd last seen him. The rifle was so heavy I almost tipped forward with all the barrel weight.

His head popped up once again. He looked at me head-on, then turned to one side. I lined my sights and took a fine bead between his eye and ear. Squeezzzz, I kept telling myself. For what seemed eternity, intensified by the fear that he might move before the 37-grain hollow point reached him, I squeezed. The rifle finally sounded, but I don't think I actually heard it.

The chuck disappeared from view. Had I missed? Did he drop just as I squeezed off? I ejected the shell and raced to the spot where I saw him last. With my heart in my mouth I anxiously scanned the clover. For a few seconds I couldn't see anything. Then I spotted him. He was flat on his back, buck teeth ominously protruding from under his upper lip. I hesitated, staring at him. I wanted to remember him just as he was, and took a mental photograph. He would be as important to me as my first deer, and later, an African elephant.

I hadn't noticed before, but now off to my left stood the old man, De Witt Hessler. He was smiling and I thought I saw the beginning of a tear in his eye.

I wondered then how I would feel when I was the old man. □

Preserving

Virginia's Natural Heritage

Each year the United States loses significant amounts of natural habitat to man's encroachment.

The Nature Conservancy is working to reverse this trend.

by Bob Belton and Elizabeth Murray

The Virginia Chapter of The Nature Conservancy, a private national conservation organization dedicated to the protection of ecologically significant land, has embarked on a far-reaching attempt to identify the Commonwealth's outstanding natural communities and species' habitats. Called the Virginia Natural Heritage Program, this project contains four primary parts: 1) identifying and classifying the components which make up the best of our natural countryside; 2) gathering data on these components to ascertain the number, location, condition and status of outstanding examples; 3) using Heritage Program information to set priorities for protection; and 4) planning and implementing successful programs for protection of the state's natural diversity.

Understanding why this program was initiated is a key to understanding also that The Nature Conservancy, based on its 28 years of experience in protecting natural areas throughout the United States, was in a hurry to get started. According to the Board of Trustees of the Virginia Chapter, "Each year, more than one million acres in the United States are paved, plowed under, or otherwise removed from their natural state. In the process, we lose much of the extraordinary natural diversity with which this country was originally endowed. Even remote areas once thought to be in no danger of disturbance or development are now being used for recreational purposes or vacation homesites."

The results of this intensive intrusion by man are that large ecological systems have been lost. The American prairies which once covered a third of the continent hardly remain. In eastern Arkansas, some 500 acres are all

that are left of the original 950,000-acre Grand Prairie. Roughly half the nation's wetlands have been filled in or otherwise removed from existence, and nearly all the country's virgin timber stands have been cut.

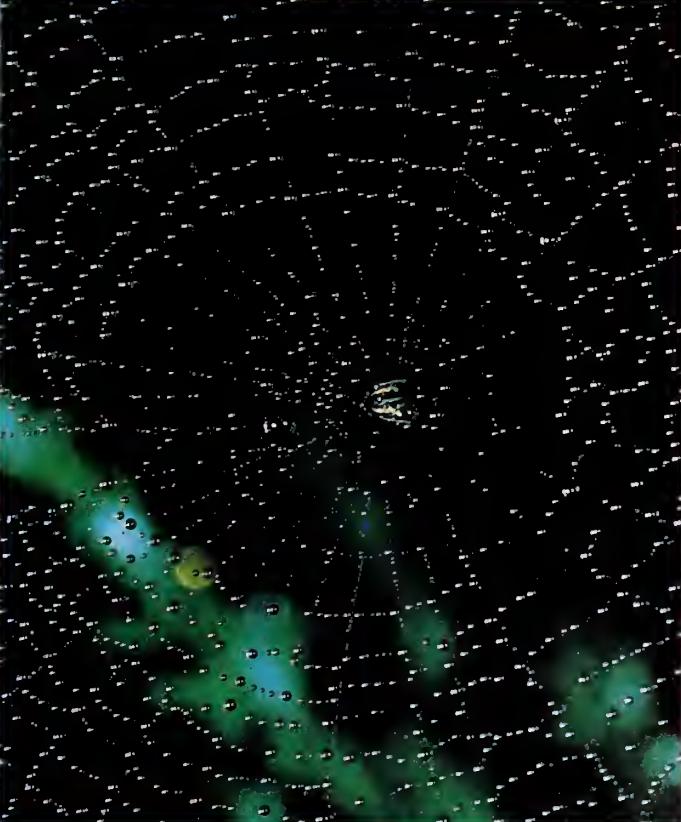
These losses are not abstract, like ideas that flit in and out of one's mind. They are real losses, losses of our states' heritages. In Tennessee, two years of research have yielded high quality examples of only 72 percent of the 132 plant communities known to have existed there. Illinois is identifying the 1,000 last tracts of land where native vegetation has been relatively undisturbed. These sites are being destroyed at an estimated rate of 15 percent per year.

So what? Are coastal salt marshes or the peregrine falcon critical to our continued existence on this planet? Probably no one particular area or species is that crucial, but all life on earth is interconnected in a complex ecological system which constitutes our life support.

The State Natural Heritage Program was developed by the staff of the national headquarters of The Nature Conservancy, and the program is in operation in 25 states (plus a program operated by the Tennessee Valley Authority in an area which spans several states). Funding for the program has usually been aided by state governments and federal matching grants from the former Heritage Conservation and Recreation Service. The situation is unique in Virginia, however, since this is the only state with a Natural Heritage Program which is not backed by either state or federal money. This "modified" Natural Heritage Program in Virginia is funded solely through private contributions produced from an energetic fund-raising campaign. With development pressure continuing relentlessly,







The Conservancy's approach to an area as a "natural community" benefits all species—game, non-game, protected, and endangered—from flying squirrels to whistling swans, from spiders to wildflowers.

*Swan—Gary Gaston
Spider's web—Michael Gadomski*



Steve Croy

there was a strong sense of urgency among Nature Conservancy ranks to begin assembling this vital data quickly, and enough money was raised to implement the program for one year, beginning in January 1981. Two of the best field biologists in the area, Steven Croy and Tom Wieboldt, have been employed full-time, working all over the state. The goal for this first year's work is the establishment of 20 priority sites where there is as yet no other form of protection. In the process of identifying these sites, many areas were studied, and all the information was recorded according to the guidelines established by the Heritage Program.

Previous efforts to protect natural diversity have involved lists of still-undeveloped areas, and lists of interesting species to be found within each area. The Heritage Program guidelines specify a more effective method of identification. Areas are recognized as whole ecological systems with, in addition to the mere presence of a species, the recognition of important habitats, rare swamps, virgin stands of timber, etc., and also the recognition of functions which occur in certain areas, for example, bear breeding ground, woodpecker nesting site, and so forth. All the information collected by the field scientists is stored in two ways. First, there is a manual data base, maintained on a series of cards, permanently located in the herbarium at VPI & SU. And there is a computerized data base at the national headquarters of The Nature Conservancy in Arlington. Here, data from Heritage Programs all over the nation will be stored, so that eventually The Nature Conservancy will have a bank of easily-accessible information about the elements of natural diversity both

The goal of the Natural Heritage program is to reverse the trend of destruction of Virginia's natural diversity. This is good not only for animals, but for plants like the fringed gentian, as well.

in Virginia and the rest of the country. From this bank, due to the versatility of the computer process, information can be extracted in any number of ways by species, by habitat, by group ecology, by interrelated natural factors, and so on. This information will be extremely helpful in the initiation of protection programs. The data bank will also simplify situations where conflicts arise between development interest and environmental concerns, and sometimes it may be used to resolve problems before a conflict arises. If information is readily available that the only remaining stand of a plant is located in one of two equally possible paths for a planned highway, it might be relatively easy to route the road down the other path. But the information must first be compiled, and must also be readily accessible. That is the job of the Natural Heritage Program.

The gathering and centralization of such information is a boon to many facets of a state's economy. Development corporations needing to prepare environmental impact statements frequently locate their data through the Heritage Program. In Colorado, a fuel company donated \$3,000 to the state program and wrote a strong letter to the Colorado government urging state support for the continuation of the program. The North Dakota Natural Heritage Program received \$50,000 from a major oil foundation. A consulting firm in Arkansas worked closely with the state's Natural Heritage Commission when assessing the environmental impact of a coal slurry pipeline across the state. The Corps of Engineers in the state of Washington claimed a saving of \$5,000 in their assessment of a dam project because of timely and efficient help from the Heritage Program.

The urgency of the need to preserve habitat and natural communities is brought home more by the accelerated rate of destruction of habitats by man than by the loss of any one particular species. By providing information, leadership and a focus for coordinated activity, the Virginia Natural Heritage Program can stimulate mobilization of extremely potent resources from private and public organizations. Every bit of those resources will be required if the continuing destruction of Virginia's natural diversity is to be reversed. For more information, contact: Virginia Chapter of The Nature Conservancy, 415 Park Street, Charlottesville, Virginia 22901; (804) 295-6106. □

Virginia Wildlife readers are familiar with co-authors Bob Belton and Elizabeth Murray. Belton is a regular contributor, most recently with "Exploring the Winter Woods" (December 1981). Mrs. Murray has been Virginia Wildlife's plant expert for many years as the writer of the monthly "In Nature's Garden" column as well as feature articles. Both live in the Charlottesville area.

The 1982 Trout Season Outlook

R.E. Wollitz, Supervising Fish Biologist

Fish Division

The outlook for the 1982 trout fishing season looks good for stocked trout. After two dry years and resulting low streamflows, conditions appear greatly improved for the coming season. Although the precipitation received during the winter of 1981-82 in the form of rain, freezing rain, sleet and snow was unwelcome at the time, it appears to have done much for streamflows, and streams should be in good shape for stocking, at least during spring months.

The outlook for native trout fishing, however, is not as bright. The below-normal streamflows experienced during the past two years have apparently resulted in reduced populations of native trout in many streams. Population sampling in several streams across the state indicates the standing crop of native trout has been reduced. With a few years of normal precipitation to maintain normal streamflows, populations should return to their former abundance.

There will be a slight change in trout stocking this coming season. In past years, trout have been allocated through July with a fall stocking of surplus fish. In 1982 and for the foreseeable future, all trout will be allocated to be stocked prior to July 1. Any later introductions will be the result of surplus fish. The primary reason for this change is the low flows in streams and reduced water supplies in the hatcheries experienced after June. This year an extra inseason stocking will be carried out during the latter part of May.

LEGEND:

*—National Forest Waters

B—Brook Trout

R—Rainbow Trout

Bn—Brown Trout

†—Species Stocked in April

	Preseason	May	June	July
ALBERMARLE COUNTY				
Moormans River (N. & S. Forks)	R	R		
City Water Works (Sugar Hollow)	B,R	B,R		
ALLEGHANY COUNTY				
Downey Branch*	R,R†			
Smith Creek*	B,B†	B		
Pounding Mill Creek*	R,R†	R		
Jerry's Run*	R,R†			
Clifton Forge Reservoir*	B,B†	B		
AMHERST COUNTY				
Pedlar River (Upper)	B,R	B,R		
Pedlar River (Lower)	R	B,R	R	
Piney River (S.Fork & Proper)	B	B		
Brown's Creek*	B,B†	B		
Davis Mill Creek*	B,B†	B		
Little Irish Creek*	B,B†	B		
Pedlar River*	R,Bn,R†	R,Bn	R,Bn	
AUGUSTA COUNTY				
Back Creek (S.Fork & Proper)	B,R	B,R		
North River*	R,R†	R		
(Falls Hollow)*	R			
Ramsey's Draft*	R,R†	R		
Braley Pond*	R,R†	R		
Back Creek*	R			
Mill Creek*	R			
Upper Sherando Lake*	R	R		
Lower Sherando Lake*	R	R		
Hearthstone Lake*	R,R†	R		
Elkhorn Lake*	R	R	R	
BATH COUNTY				
Bullpasture River	R,Bn	R,Bn	R	
Jackson River	R,Bn	R,Bn	R	
Spring Run	B,R,Bn	B,R,Bn	R	

	Preseason	May	June	July
Back Creek*	R,R†	R		
Wilson Creek*	B,B†	B		
Pads Creek*	R,R†	R		
Jackson River*	R,Bn,R†,Bn†	R,Bn		R,Bn
BEDFORD COUNTY				
Stoney Creek-B. Otter R.	R,Bn	R,Bn		
Hunting Creek*	B	B		B
Battery Creek*	R	R		
BLAND COUNTY				
Hunting Camp Creek	B,R	B,R	R	
No Business Creek	B,R	B,R		
Lick Creek*	B,R	B,R	R	
Wolf Creek	R,Bn	R,Bn	R	
Laurel Fork Creek	B,R	R		
Lick Creek	R	R	R	
BOTETOURT COUNTY				
Jennings Creek	B,R	R	R	
Mill Creek	R,Bn	R,Bn		
Roaring Run	R,Bn	R,Bn	R	
North Creek*	R	R	R	R
Middle Creek*	R	R	R	R
McFalls Creek*	R	R	R	R
BUCHANAN COUNTY				
Hurricane Fork	B,R	B,R		
Dismal River	B,R	B,R	R	
CARROLL COUNTY				
Little Reed Island Creek	R,Bn	R,Bn	R	
Stewarts Creek	B,R	B,R		
Big Reed Island Creek	B,R	B,R	R	
Crooked Creek	B,R			
Burkes Fork	B,R	B,R	R	
Laurel Creek	R,Bn	Bn	R	
Snake Creek		R,Bn		
CRAIG COUNTY				
Potts Creek	B,R,Bn	B,R,Bn	R,Bn	R
Barbours Creek	B	B	B	
Barbours Creek (N. Fork)	B	B		
Cove Creek	B	B		
DICKENSON COUNTY				
Frying Pan Creek	B,R	B,R		
Russell Fork River	R,Bn	R,Bn	R	
Pound River	R,Bn	R,Bn	R	
FLOYD COUNTY				
Burkes Fork	B,R	B,R		
Howell Creek	B,R	B,R	R	
Rush Creek	B,R			
Little River (W. Fork)	B,R	R	R	
Meadow Creek	B,R			
Laurel Fork	B,R			
Mira Fork	B,R			
Goose Creek	R	R		
Little River	R,Bn	R,Bn	R	
Little Indian Creek	R	R		
Little River Fish for Fun				
FRANKLIN COUNTY				
Maggadee Creek	B,R	B,R		
Green Creek	B,R	R	R	R
Runnett Bag Creek	B,R	B,R		
FREDERICK COUNTY				
Back Creek (Upper)	B,R	B,R		
Back Creek (Lower)	B,R	B,R		
Hogue Creek	B,R,Bn	B,R,Bn		
Cedar Creek	B,R,Bn	B,R,Bn		
Paddy Run	B,R	B,R		
Clearbrook Lake	B,R,Bn	B,R,Bn	R	
GILES COUNTY				
Big Stony Creek	B,R,Bn	B,R,Bn	R	
Sinking Creek	B,R,Bn	R,Bn	R	
Dismal Creek*	R	R	R	R
GRAYSON COUNTY				
Big Wilson Creek	B,R,Bn	R,Bn	R	
Middle Fox Creek	B,R	B,R		
Big Fox (Upper)	B,R	B,R	R	
Big Fox (Lower)	B,R,Bn			
Elk Creek	B,R	B,R	R	
Peach Bottom Creek	R	R	R	
Helton Creek		R	R	
Hale Lake*				

	Preseason	May	June	July		Preseason	May	June	July
GREENE COUNTY					Home Quarry Lake*	R,R†		R,Bn	
Lynch River	B,R	B,R			Home Quarry Run*	R,R†			
South River	B,R	B,R	R		RUSSELL COUNTY				
Swift Run	R,Bn	R,Bn			Copper Creek	R		R	
HENRY COUNTY					Big Cedar Creek	B,R,Bn		R,Bn	R
Smith River (Philpott)	B,R,Bn	R,Bn	R		Laurel Bed Lake†				
Smith River (Bassett)	R	R,Bn			SCOTT COUNTY				
Smith River (Koehler)	R	R,Bn			Little Stony Creek (Lower)	B,R		R	R
HIGHLAND COUNTY					Stock Creek (Lower)	R		R	
Bullpasture River	B,R,Bn	B,R,Bn	R		Stock Creek (Upper)*	R		R	
Potomac River (S. Fork)	B,R,Bn	R,Bn			Big Stony Creek	R		R	
Jackson River	B,R,Bn	R,Bn	R		Little Stony Creek (Upper)*	R		R	R
Back Creek	B,R	B,R			Straight Fork*	R		R	
LEE COUNTY					SHENANDOAH COUNTY				
Hardy's Creek	R,Bn	R,Bn	R		Passage Creek	B,R,Bn		B,R,Bn	
Martin's Creek	B,R,Bn	R,Bn	R		Big Stoney Creek	B,R,Bn		R,Bn	R
Powell River (N. Fork)	B,R	R	R		Cedar Creek	B,R		B,R	
MADISON COUNTY					Mill Creek	B,R		B,R	
Garth Run	B,R	B,R			Paddy Run*	R,R†		R	
Hughes River	B,R	B,R	R		Cedar Creek*	R,R†			
Robinson River	R	R			Peters Mill Creek*	R,R†		R	
Rose River	B,R	B,R			Tomahawk Pond*	R,R†		R	
MONTGOMERY COUNTY					Little Passage Creek*	R,R†		R	
Tom's Creek	B,R	B,R			SMYTH COUNTY				
Poverty Creek*	R	R			S. Fork Holston River Gorge*	R		R	R
Craig Creek*	R	R			S. Fork Holston River (Lower)	B,R,Bn		B,R,Bn	R
Roanoke River (S. Fork)	R,Bn	R,Bn	R		Big Laurel Creek	B,R		B,R	
NELSON COUNTY					Staley's Creek	B,R		B,R	R
Tye River	B,R,Bn	B,R,Bn	R		Middle Fork Holston River	R,Bn		R,Bn	R
South Rockfish River	B,R	B,R			Comer's Creek*	R		R	
Stony Creek	B	B			Hurricane Creek*	R		R	
PAGE COUNTY					Houndsshell Creek*	R		R	
Cub Run*	R,R†	R			Dickey's Creek*	R		R	
Upper Passage Creek*	R,R†	R			Middle Creek*	R			
PATRICK COUNTY					TAZEWELL COUNTY				
Dan River (below Powerhouse)	B,R,Bn	R,Bn	R		Wolf Creek	R,Bn		R,Bn	
Dan River (above Powerhouse)	B,R	B,R			Cove Creek	B,R		B,R	R
Rock Castle Creek	B,R	B,R			Laurel Creek	B,R		B,R	
Round Meadow Creek	B,R	B,R			Roaring Fork	B,R		B,R	
Mayo River (N. Fork)	B,R	B,R			Little Tumbling Creek	B,R		B,R	R
Mayo River (S. Fork)	B,R	B,R			WARREN COUNTY				
Poorhouse Creek	B,R				Gooney Run	B,R		B,R	
Big Ivy Creek	B,R	B,R			WASHINGTON COUNTY				
Ararat River	B,R	B,R,Bn	R		Whitetop Laurel (Upper)	B,R		R	
PULASKI COUNTY					Whitetop Laurel (Below)	B,R,Bn		R,Bn	R
Peak Creek (W. Fork)	B,R	R			Tennessee Laurel	B,R		B,R	R
ROANOKE COUNTY					Green Cove Creek	B,R		B,R	
Roanoke River	B,R,Bn	B,R,Bn			Big Brumley Creek	B,R		B,R	R
Tinker Creek	B,R	B,R			Big Tumbling Creek	B,R		B,R	R
Glade Creek	B,R	B,R			Valley Creek	B,R		B,R	
ROCKBRIDGE COUNTY					Straight Branch	R		R	R
Mill Creek	B,R,Bn	R,Bn	R		Straight Branch*				
Irish Creek	B,R	B,R			Beartree Impoundment*				
South River	R	R			WISE COUNTY				
Maury River (Goshen Pass)	B,R,Bn	R,Bn	R		Middle Fork Powell River	B,R		B,R	R
ROCKINGHAM COUNTY					Mountain Fork*	R		R	
Shenandoah River (N. Fork)	B,R,Bn	B,R,Bn			Burns Creek*	R		R	
Dry River	B,R	B,R			Clear Creek*	R		R	
Briery Branch	B,R	B,R			High Knob Lake*				
Silver Lake	R,Bn				E. Fork Stoney Creek*	R		R	
German River	R,Bn	R,Bn			Gullion Fork Creek*	R		R	
Boone's Run*	R	R			W. Fork Dry Run & Dry Run*	R		R	
Shoemaker River*	R,R†	R			W. Fork Reed Creek*	R		R	
Skidmore Fork*	R	R			Gullion Fork Pond*	R		R	
Briery Lake*	R	R							

It Appears to Me

by Curly

... A PERSON OUGHT TO HAVE ONE

Those good folks over at the Virginia Institute of Marine Science (VIMS) at Gloucester Point, have gone and done it again...this time in spades. They have whomped up two sets of TIDE GRAPHS which may be just the answer for all kinds of situations involving boating and other water related activities.

Down here at the Virginia Game Commission one of the most frequently asked questions by the public involves information pertaining to the tides. Now it is possible for you, if you are interested, to obtain copies of either or both charts mentioned above on a regular basis and at no cost to you.

These Tide Graphs, one for Wachapreague, and the other for Hampton Roads have been prepared for public distribution as a Sea Grant Marine Advisory Service of VIMS, School of Marine Science of the College of William and Mary. The Tide Graphs for Wachapreague are based on tidal constants obtained through analysis of tidal height measurements by VIMS Department of Geological Oceanography. Tide Graphs of Hampton Roads are complete with a Tidal Difference Table.

To obtain either or both of these graphs, ask to have your name placed on the subscription list to receive the quarterly service. Address your request to Tide Graphs, Sea Grant Marine Advisory Service, Virginia Institute of Marine Science, Gloucester Point, Virginia 23062.

Here is a tip for all of you "in-ovators"... there is an outfit in Falls Church that is really involved with the recycle business. As a matter of fact, it is their first name, Recycle Works. These fine souls came up with the idea of collecting clean scrap from factories and retailers. "Good stuff" such as plastics, textiles, paint, paper and the like. They then sell these items for a pittance to the public and non-profit organizations for craft supplies. Not only that, they also have some jimdandy ideas for making practical and inexpensive products that come in



right handy for a body. As just one "for instance," consider the fact that they have fleece available in bulk and I reckon a person could find all kinds of use for such as that...boot liners and the like. If this all sounds interesting, why don't you get in contact with Karen Selwyn at Recycle Works, Inc., 132 North Washington Street, Falls Church, Virginia.

I want to tell you about an opportunity to get involved...to participate in the decision-making process that is currently underway over at the United States Forest Service. Those fine people are in the process of developing and implementing resource and land management plans for all of the national forests. Target date for the completion of the program is 1985. A vital part of the plan is how well the needs of wildlife and fish are included. As a matter of fact, it will determine just what their status will be on the national forest lands for the foreseeable future. If you are at all concerned about our precious wildlife and fish resource, this is your chance to let yourself be heard. To give you some guidance on just how to do it, the Wildlife Management Institute has free (single) copies of a brochure which explains the procedure. Drop the folks at the WMI a line and request "National Forest Management Plans: How to Include Fish and Wildlife." The address is 709 Wire Building, 1000 Vermont Ave. N.W., Washington, D.C. 20005.

... FOR YOUR BOOKSHELF

It is certainly not a bit too early to begin thinking about the good weather which we can look forward to...and with the kind of weather, it is easy to let our minds dwell on some of the pleasurable activities associated therewith. Activities such as hiking, for

example, which is a sneaky way of leading up to telling you about three delightful publications available from the Appalachian Trail Conference. The books to which I refer are, first of all, "The Appalachian Trail Data Book 1981." This 70-plus pager originally was printed under another name (Mileage Fact Sheet) in 1971. Since then, two editions have been printed prior to the 1981 version. Some of the chapters to be found include, Distances by Section, lists of features along the trail, and a wealth of condensed invaluable and pertinent information. The book sells for \$3.80 plus \$.90 postage to members and \$4.45 plus the same postage to non-members. The second book is the Eighth Edition of "Appalachian Trail Guide: Central and Southern Virginia." This jewel contains complete planning information, detailed hiking directions (for both directions on the trail) and general information for the AT in central and southern Virginia. It covers the 388.3 miles of trail from Rockfish Gap at the southern border of the Shenandoah National Park, to the Virginia-Tennessee state line, 4.0 miles south of Damascus, Virginia. It is priced at \$10.58 plus \$2.10 postage for members and \$12.45 plus the same postage for non-members. The third book is entitled "Appalachian Trail Guide: Tennessee and North Carolina." Its contents are much the same as the other book but are of course applicable to the areas mentioned. This book sells for \$10.95 plus \$2.10 postage to a non-member, and \$9.30 plus \$1.80 postage to members. Each of the two guide books come complete with a set of maps. All in all these dandys are a must if you plan to hike...or even to just "dream one"...and they fit in your pocket!

They are available from the Appalachian Trail Conference, P.O. Box 236, Harpers Ferry, West Virginia 25425.

... AND THEN

A wise man once said that music is the only cheap and unpenished rapture on earth. It is that and much more. It is an aid to living, a shield against despair, and a triumph of the human spirit.—The Royal Bank of Canada letter

"Spotlight" on Sportsman Assistance

Sgt. Lannie Chitwood
Law Enforcement Division

The law enforcement division of the Commission of Game and Inland Fisheries is vested with the authority of enforcing what is commonly referred to as the spotlighting law (Virginia state statute 29-144.2). This statute makes it illegal to cast a beam of light upon places used by deer without written permission of the landowner. Conviction can lead to a 90-day jail sentence, a fine of \$500, and the loss of any weapons and vehicles involved.

Game wardens throughout the state spend a large percentage of their enforcement time on spotlighting cases. This work involves discussing spotlight complaints with people, investigating illegal night deer kills, and the most time-consuming task, surveillance of known violation areas. Often, our combined law enforcement patrols pay off, and result in arrests, prosecution and conviction of spotlighters.

Local citizens helped two Virginia game wardens one December night in Isle of Wight County. Aside from the results of the investigation, what makes this case noteworthy are the assistance given to the law enforcement division by citizens and the professional law enforcement methods used by Sgt. Michael Caison and Game Warden Richard Jenkins. Jenkins received a telephone call from Burl McCosh of the Moonlight Hunt Club in Isle of Wight County. McCosh told Jenkins that he had observed lights, a suspicious vehicle and had heard a shot just outside his home.

Warden Jenkins and Sgt. Caison left immediately. When they got to the Moonlight Hunt Club area, they found several Moonlight Hunt Club vehicles. They communicated via citizen band radios with two of the drivers, George Edwards and Allen Thacker, who gave them additional information about the suspicious vehicle. Moments later,

Warden Jenkins and Sgt. Caison stopped a truck matching the sportsmen's descriptions. The two occupants of the truck had two high-powered rifles, a pistol, ammunition, and a spotlight. The officers briefly interviewed the subjects, seized their weapons, ammo, and spotlight, and told them to drive their truck to the area where the shot was heard.

When they arrived at the area, Sgt. Caison and Warden Jenkins asked the Moonlight Club members to assist them by looking for a deer, shell casing, foot prints, firearms, or any unusual items that they might see. One of the club members found a deer in a field in the area where McCosh had heard the shot. Sgt. Caison found a spent high-powered rifle casing on the roadside.

After collecting the evidence, interviewing the subjects in the truck, and taking statements from Burl McCosh, Jane McCosh, George Edwards and Allen Thacker, Sgt. Caison and Warden Jenkins charged the subjects with taking deer at night with vehicle, lights and firearms (29-144.2), and seized their four-wheel drive pick-up. The rifles, ammunition, pistol, spotlight, and pick-up were held until the court hearing in Isle of Wight County.

As part of their investigation, Sgt. Caison and Warden Jenkins later took a spent rifle slug from the doe deer carcass. They took the slug, the two rifles, and the spent rifle casing to the Richmond State Crime Lab.

The lab reported that the spent casing found on the roadside was definitely fired from one of the two rifles that the wardens had seized that night. Because the spent slug was somewhat deteriorated when it struck the deer, the lab could not say conclusively that it had been fired from one of the two rifles confiscated, but strongly suspected that it was fired from the same rifle from which the casing had come.

Sgt. Caison and Warden Jenkins prepared their cases for court in January 1981. They talked to the McCoshes, Edwards, and Thacker again to make sure they had the full story. These people were also later subpoenaed to appear in the court proceedings.

On the court date, the officers pres-

ented the witnesses' testimony, Richmond State Crime Lab reports, evidence they collected at the scene, and their own testimony. The district court convicted both subjects of violationg state statue 29-144.2. The two were levied fines of \$300 each, and their rifles and vehicles were also confiscated by the state.

The subjects appealed their cases to Circuit Court. Sgt. Caison and Warden Jenkins were prepared with their testimony and evidence again, and again the subjects were convicted. The rifles were forfeited to the state and the truck was ordered to be sold at public auction. It was sold in the summer of 1981.

As sergeant of the area in which this case took place, I commend the interested citizens—Burl McCosh, Jane McCosh, George Edwards and Allen Thacker—without whose call, help, and testimony, this would have been another one of those stories that the warden hears about two weeks after the fact—too late to act. These sportsmen and sportswoman showed their concern for and interest in hunting ethics and public safety.

The State Crime Lab in Richmond also played an essential role, providing the wardens with reports that greatly strengthened the case.

Sgt. Caison and Warden Jenkins are also to be commended for their professional handling of the cases from beginning to end. They answered the call promptly, elicited concerned assistance, called on other state agencies for lab analysis and finally testified successfully in both General District and Circuit Court in Isle of Wight County.

The Operation RESPECT program is geared to this type of cooperation by local sportsmen and game wardens. The law enforcement division of the Game Commission could not be effective without the assistance of the public. We encourage each sportsman to call on us; we will do our very best to help you in any way that we can—and hope that you will do what you can to help us do our job better. Working together, we may realize a safer and more enjoyable environment in which to hunt, fish, trap and boat. □



Lucky Seven



Don't wait to train your hunting dog—he's ready to learn at seven weeks.

by Charles D. Bays

(Preceding page) Puppies can learn at a very early age, and training should begin at seven weeks.

(Clockwise) A young painter holds staunchly while the old dog is allowed to back; there is no reason that the entire family can't participate in the training, and there are no seasonal restrictions, either; the most exciting moment in hunting—going to a staunch dog on point, anticipating the flush.

The long-standing and widely accepted rule for comparing a dog's age to man's age is one to seven. Using this ratio, a four-year-old dog is equal to a 28-year-old man; both are in their prime. When he reaches nine, the dog is nearing retirement, much like a 63-year-old man. So far, the formula seems valid, which is why many trainers wait for up to a full year to start training their bird dogs.

But there are fallacies to this rule. Unlike a seven-year-old child, a year-old dog is physically mature. Doesn't it also stand to reason that comparatively speaking, his ability to learn also begins much sooner than does a child's?

It does—at seven weeks of age. This is the exact time at which the pup should be weaned and training should begin. It often means the difference between an efficient, well-mannered bird dog and a head-strong, uncontrollable mutt.

The principle reason to begin training at this tender age is to establish good rapport with the dog. Once this is accomplished, training is not an arduous task, it's a pleasurable learning experience—for you and the dog.

It would be well at this point to lay aside a common training misconception. Regardless of advice to the contrary, there is no objection to the gun dog sharing your living quarters. It will not ruin his nose or whatever else the objections are supposed to be. This is a good way to insure that time and attention will be afforded the pup. This is important, if not vital, particularly during the first three to four months after he's weaned.

Do allow the rest of the family to play with him. Encourage it. It's beneficial, not damaging. Make preliminary puppy training a family affair. When the pup grows older, and formal by-rote training begins, you can delegate responsibilities and supervise their efforts if the family still wishes to help.

Three reasons account for more training failures than all others combined. Training was started too late, rapport was not established, or the trainer made a poor choice of a dog to train.

We've already covered the first two priorities; the best insurance you can get that the pup you pick to train will live up to your expectations afield is to know the pup's dam and sire are of sound hunting stock. As trainers, we can instill in the dog the desire to please, teach him an assortment of commands and to some degree refine style, but it's impossible to teach a dog to hunt. Breeding alone takes care of this.

Registration papers and pedigrees insure he's purebred; they do not guarantee he has hunting blood in him. Many fine dogs afield today, for one reason or another, are unpapered.

Starting at seven weeks of age, work your pup daily on the bird wing; stop when he begins to tire. For the first week or so this will probably be within five minutes. By the time he's eight to ten weeks old, he'll wear you out.

To construct this training aid, tie a bird wing (or small piece of cloth) at the end of a five-foot piece of string attached to a fishing rod. Fly the wing over the pup's head; he'll excitedly chase it. Then light it on the ground a foot or





two in front of him. Many seven-week-old pups will flash point.

Once he's pointing fairly staunchly—this may be as early as eight weeks old—gently command "whoa." Of course, this is sight pointing, but there's no better way to introduce the pup to this essential command. Although it's fun for the pup and the trainer, it's more than a game. Sight pointing the wing gives a good indication of the pup's future pointing style and the amount of instinctive "point" in him; keep this in mind when selecting a pup.

Another essential command, "fetch," can begin as a game when the pup is seven to eight weeks of age. Choose any small, soft object, shake it near him, then throw it a couple of feet away. Any pup of any breed will run to it and pick it up, although they will usually carry it in the direction opposite the person who threw it. That's okay, at this point it's a game.

Work with him for five minutes each day. As he grows older, he'll start to carry the dummy for an extended period of time without dropping it, although he will still be reluctant to bring it to you. Correct this by throwing the dummy and once he picks it up, run from him excitedly clapping your hands. He'll chase you. Pet him, gently remove the dummy and repeat the lesson while inserting the command "fetch."

Within a month, he will be consistently fetching to hand while you remain stationary. Substituting the bird he'll be hunting in place of the dummy is, of course, beneficial.

Advocates of the force-retrieve system of teaching fetch will argue this is fine as a game, but at best an unreliable method of teaching the command. If this training method is started too late in the dog's life, it will not always work. But started at seven weeks of age and consistently given on a daily basis, this will be the only method you will need to insure that your dog will be an efficient retriever—not one that fetches when the notion strikes him.

The best bred and otherwise well-trained dog is totally useless if he's gun-shy, one more important reason to start training early. Avoiding this tragedy (which should never occur) is really a simple matter.

When the puppy dives into his food dish, fire over him with a cap pistol. He'll flinch at first but after a few sessions of this conditioning he'll learn to tolerate the noise and in fact learn to associate the report of the gun with something good—mealtime, any dog's favorite time of day.

The first time you fire an advanced firearm afield with him along, be a few yards away from the dog when you shoot. (It's not mandatory for game to be involved at this time.) If he seems startled by the unexpected noise, don't make a fuss over him. Instead, continue on as though nothing unusual had happened. He'll do likewise if he's been properly pre-conditioned.

Backing—honoring the lead dog's point—can also be introduced to the pup through use of the bird wing. Once he's pointing the wing on a consistent basis, work him with another dog allowing both an opportunity to simultaneously point the wing. After a few sessions of this, it may become unnecessary for the pup to actually see the wing to go on point; instead he freezes upon seeing the other pointing dog, or in essence, backs. It's sometimes beneficial to allow the first dog to sight point the wing, then bring the backing dog in.

An important fact to keep in mind when conducting the early training sessions is that there is no reprimand or correction—regardless of his response. At this time your purpose is not to achieve perfection of commands; don't expect it. But he is learning on the unconscious level. Because of this and the rapport gained here, by-rote formal training which follows will be much easier.

When he's three months old, formal training may begin. Start out with simple commands like "sit" and "stay." Remember, he's still a youngster, so go patiently.

To teach him to sit, pull up on the lead and push down on his rear. Command, "sit." He'll catch on after a few lessons.

Now move on to "stay." Command, "sit," then move back a step or two. Shove an upturned palm in his face. When he bounds to you, and he will, take him back, command, "sit," then "stay," and pet him. Step back again. Command, "stay," while reinforcing with the hand signal. When you anticipate he's about ready to break to you, command, "come." Now he's done two things right. Praise him, and tomorrow lengthen the time you require him to stay; if he breaks too soon he must do it all over again.

Why teach a bird dog to sit and stay? There are three basic reasons. First, it's darned convenient to have the dog sit on command while you remove a thorn from a pad or put on a new flea collar. Secondly, the hand signal for "stay" is the same signal used later on in teaching "whoa." But the third and most important reason is that the dog is learning to accept restrictive commands; if he doesn't do it right, he's got to do it over. This is when he first begins to realize you're not only his buddy—you're also his boss.

Take the pup along on short car trips to the country. This will insure he will ride without fear or "accident," and later on, load up without hesitation.

He'll love the walks at the end of the trip; this is also beneficial. Feeling a basic need to keep in close contact with you, he'll not wander too far. But if he should get adventuresome and tarry, don't search for him unless there's a real possibility of his being in danger. Instead, wait for him to find you. Remember, it's the gun dog's responsibility to check back with you; get this straight with him right now.

These preliminary "hunting trips" will go a long way toward insuring he will not be a bolter (running off for an extended period of time) or a self-hunter.

At four months of age, it's time to work him on live birds, affording him the opportunity to point and to honor another dog's point. Pen-raised quail allow you to do so regardless of the time of year and under controlled circumstances. A mesh wire cage provides the birds suitable housing; wild bird feed and water will sustain them for the month or so you'll be working with them.

To prevent them from flying extreme distances, tie a half ounce weight at the end of a foot long cotton string attached to one of the bird's legs.

Plant the quail in sufficient cover. Bring the pup down wind and work him towards the spot. He may point and hold, but as a safety valve, have a lead attached to be used if restraint is necessary. Following the point, gently command "whoa" and rub him lightly.

Since the actual point is the most exciting moment in training, this is where many over-zealous novices go astray. When working the dog on pen-raised quail, don't overdo—not on any given day, nor for extended periods of time; it can cause the dog's interest and enthusiasm for birds to wane. Once he's pointing staunchly, kick the bird up and shoot it for him.

Pen-raised quail are also useful in teaching the pup to "back." Plant a bird, allow a staunch dog to point, then bring the pup learning to honor up on a lead. He may remember the bird wing backing lesson and honor the point. If so, gently command "whoa," release the pressure on the lead, but keep a firm grip. If he fails to back and appears confused, either of two methods may be employed.

You can restrain the dog, have a buddy kick the bird up,

and let him see what the lead dog is pointing, or, you can allow him to move in close enough to both smell the bird and at the same time see the lead dog. Here, some trainers will pick the dog up and set him behind the pointing dog before flushing or shooting the bird. If working a young dog for the first time, this is neither mandatory nor advisable.

If the young dog is still confused, you may allow him an opportunity to point the bird after removing the old dog from the field. Work him on the check cord and restrain him if necessary. But don't overdo. Quit for the day and let the new experience sink in. Then work him again in a day or two. Usually, after a couple of these sessions, a young dog will soon learn to back. Working the dog in a controlled situation on a check cord saves valuable hunting time—and a lot of frustration.

Once the young dog has demonstrated to your satisfaction that he has a good working knowledge of back and will honor a point without hesitation, hunt him alone for a while. This will go a long way toward insuring he will learn to find this own birds—and not by following or tracking the other dogs afield.

We know that at one year of age the pup reaches adult size. We've also established that he's capable of learning at seven weeks of age. There's one more important in-between period to watch for in training—the independent stage of the pup's development, when he initially starts to assert his independence or indifference to training.

This often happens at about four months of age, but the time at which it occurs and the degree of independence asserted, will vary greatly according to the breed and the individual dog you are training. This is not puppy play; he's trying you out, deliberately refusing to perform known commands or similar violations. It's important to recognize this change and adjust your training procedures accordingly.

Make a firm stand. Establish the fact that the dog must respect you as his master and make him understand that you accept no compromises. Now is the time to correct and reprimand if this is what he deems necessary. But fit the punishment to the offense. And remember, it's his attitude you're trying to change, not his conformation. A harsh tone of voice, the cold shoulder, or a slap on the nose with your hat is often as effective as a lashing with a leather strap. Exert only as much force as the dog himself dictates and as little as necessary to get him under good control. Above all else, be sure the dog knows why he is being reprimanded.

You'll have little trouble here if you nip it in the bud. "Hard-headed" dogs—an often inappropriate phrase—are usually dogs which have gone uncorrected or untrained for lengthy periods of time. Like the spoiled child, they can present serious problems. When your dog barks, correct him immediately; do it cleanly and swiftly, then continue with our training program. Don't hold a grudge.

The final step in training is accomplished afield. There is no substitute for an actual hunt in order for the dog to learn how to hunt. As a result of your early training efforts and the rapport already gained, he'll be much more easily managed when game is involved than will a dog started later in life.

Depending upon the dog's progress and his birth date in relationship to the opening of hunting season, this first real hunt may occur prior to his first birthday. When many trainers are starting their dogs you'll be finishing yours—gunning over him for wild birds in the field. □

Charles Bays' articles on dogs and upland game birds have appeared in Virginia Wildlife in several issues, including the September 1981 special hunting issue.

Delegate Speaks At Operation Respect Conference

"Helping Landowners Deal With Sportsmen" was the theme of a meeting recently held at Richmond's John Marshall Hotel. Some 100 sportsmen and landowners attended the conference which was jointly sponsored by Operation RESPECT and the Virginia Forestry Association.

Featured speaker Delegate A. Victor Thomas set the tone of the gathering with these remarks.

"For several years now the Virginia Legislature has been acutely aware of the need and desirability of striking an effective and equitable balance between sportsmen and landowners. For some time these interests were deemed to be competitive. This should not be the case.

"Two years ago, it was brought to the attention of the legislature that the damage stamp fund, as then in place, had become somewhat obsolete. Abuses in expenditure of the funds collected were occurring. Landowners with legitimate claims were denied payment and funds were expended for inappropriate purposes. Realizing these inequities, sportsmen and landowners proposed changes and modifications. They were effective as a coordinated voice in rectifying the problems. Distinct purposes for which the fund could be used were enumerated, the primary emphasis of payment being placed on the payment to landowners for damages by big game and big game hunters. The culmination of this coordinated effort brought to realization the desire of the sportsman to 'pay his own way' and to assist the landowner in addressing a serious concern on his part.

"For years a serious problem existed with the illegal spotlighting of deer, and landowners were subject to extreme imposition at all hours of the night and under a multitude of circumstances. Though the great majority of these unfortunate occurrences were illegal under prior law, they nevertheless portrayed a poor reflection on the



Delegate A. Victor Thomas at the recent "Landowner-Sportsman Conference"

Francis N. Semler

true sportsman. The legislature once again, after several years of attempting to address the issue, ultimately chose the only viable solution—to ban the spotlighting of deer.* Once again this must be viewed as a victory for landowners and sportsmen alike, the result of an effort coordinated by representatives of organizations composed of landowners, sportsmen, hunters, fishermen and other like those assembled here today.

"I want to stress the need for organizations like those represented here, the continued and constant input, the desire to bring about change, and the monitoring of our own actions to strike the important balance is essential. Rest assured that the legislature is aware of your existence, your numbers, and the beneficial effect that you have had in the past and are capable of producing in the future.

"Efforts are being made in this session of the legislature to gain full police powers for full-time Virginia game wardens. The rationale for such a proposal is composed of many facets. Increased crime prevention, cost efficiency, public image, and the welfare of the officer are all paramount. A great percentage of a warden's time is spent in rural areas. His presence

alone, with full police power, could be a deterrent to crime. Consequently, the lack of authority poses delay and the necessity of dual law enforcement to effectuate an arrest. Increased public image can be accomplished. A great majority of citizens are not aware of the existing lack of authority and consequently do not understand the warden's lack of action under certain circumstances. Last but certainly not least, the inability to respond quickly in certain circumstances places a warden's personal safety in danger.

"Our past efforts as landowners and sportsmen working together can be greatly enhanced by providing this authority. Your cooperation, coordination, and unified support are essential. The legislature is aware and is listening.

"Finally, I do not want to leave the impression that problems don't exist between landowners and sportsmen. However, it is my opinion that the legitimate sportsmen, through groups such as Operation RESPECT, go a long way to bridge differences and disputes caused primarily by only a few.

"Thank you and let me hear from you."

*In Virginia spotlighting is prohibited, unless written permission is granted by the landowner.

Eagle Leads Wildlife Week

"We Care About Eagles" is the theme of National Wildlife Week for 1982, March 14 through 20.

The 45th annual observance will help commemorate 1982 as the "Year of the Eagle"—the bicentennial of the selection of the bald eagle as America's national symbol—and will call attention to the fact that many wildlife species, including the bald eagle, are now endangered in the U.S.

"It is no coincidence that we have decided to honor the bald eagle in the same year that Congress is called upon to renew the Endangered Species Act of 1973," said C. Clifton Young, a Reno, Nevada attorney and president of the National Wildlife Federation. "Back when the eagle was chosen as our

national symbol, this native bird was plentiful throughout our land. Now it is an endangered species in all but five of the contiguous 48 states. Not only do we need to honor this magnificent bird, we need to protect him."

Congress first moved to conserve the bald eagle in 1940, with the passage of the Bald Eagle Protection Act. But eagle populations continued to decline in the '50s and '60s, due mostly to the widespread use of pesticides such as DDT that interfered with the eagle's reproduction process. Loss of habitat and illegal shootings also threatened the eagle.

The NWF has taken the lead among conservation groups campaigning to reverse the eagle's downward population trend. Since 1974, the Federation has established four bald eagle sanctuaries in prime wintering areas. The Federation operates a Raptor Information Center in Virginia that, among

other things, conducts an annual bald eagle survey and tries to identify other critical bald eagle habitats. To discourage illegal killings, the NWF offers a \$500 reward for information leading to the conviction of anyone who kills a bald eagle.

Thanks to efforts like these, NWF statistics show that the bald eagle population is beginning to recover in some areas. The Federation's annual eagle census of 1981 reported a slight increase in eagle populations for the lower 48 states. The only state in which the eagle is plentiful is Alaska.

"If indeed the eagle has begun to make a comeback, this is an excellent example of how man's efforts can improve an endangered species' chances of surviving," said Young. "But this bird of freedom still needs our help, and so do scores of other endangered species. We can only make a difference if we care." □

Advanced Environment Courses Offered

Teachers, you can earn credits toward an advanced degree while increasing your understanding of resource

and environmental problems. The Virginia Resource-Use Education Council is sponsoring summer classes at four schools across Virginia this June and July.

The three-week course is designed to help the teacher at all grade levels to better present environmental concepts in the classroom. The course is aimed at teachers (kindergarten through grade

12), supervisors, and administrative personnel in public and private schools. Other interested persons, including leaders of resource-related associations, and members of local planning commissions, are encouraged to attend.

Thirty scholarships are offered at each institution covering all in-state tuition. An allowance is offered toward tuition, fees, and room and board for those who stay on campus.

ACT NOW—Send for an application blank. Those submitting applications early stand the best chance of getting scholarships at the institution of their choice.

Please indicate your choice of institution for the conservation course:

DATE _____

Longwood—June 15-July 2, 1982

NAME _____

VPI & SU—June 21-July 9, 1982

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CITY _____ STATE _____

W & M—July 12-July 30, 1982

ZIP _____

I am a Virginia teacher and would like to apply

SIGNATURE OF APPLICANT _____

for a scholarship.



Money Needed to Save Wildlife

Until now, much of the effort to save endangered animals has been funded by the federal government. Today, federal budget cuts are drying up funds necessary to continue these programs. A recent incident in Wyoming shows the need to have money available to act promptly when one of our troubled animals appears in the wild.

What at first appeared to be a common dog fight led recently to the location of one of the rarest animals on earth. Last September 17, a Wyoming rancher checked his yard to see why his dogs had been barking all night. There he found the apparent cause of

the commotion—a small, weasel-shaped animal with a black mask and black feet. When the rancher took the strange animal to town, he found out just how unusual it was. The dog's victim was a black-footed ferret, the rarest mammal in North America.

The only species of ferret native to the continent, this small predator ranged from Texas to Canada until widespread poisoning of prairie dogs led to its near extinction. The last verified sighting of a ferret was seven years ago in South Dakota, and until this find, there was doubt that any ferrets still lived in the wild.

This discovery led to an intensive search by wildlife officials in the vicinity of the Wyoming ranch. At the end of October, a live ferret was sighted nearby and subsequently trapped. Biologists fitted the animal with a radio transmitter so that its movements could be tracked. Then, on November 4, a second ferret was spotted only 75 yards from the tagged animal's hole. Biologists haven't decided whether to trap the second ferret to determine its sex.

You can assure that Virginia has the money to help endangered wildlife by contributing to the new Non-game Wildlife Fund. Just use line 20 on your Virginia Income Tax form and give a portion of your refund to wildlife. □

Canoe Association Has New Catalog

Whether you are a long-time paddler or are just getting started, the right books can add greatly to your understanding and enjoyment of the sport.

The American Canoe Association (ACA), through its Bookservise, offers an extensive selection of canoeing and kayaking books. The brochure, which lists available titles, descriptions, prices and order forms, has been recently revised and updated, giving the most current information available for the canoeing enthusiast interested in starting or adding to his "paddler's library."

The titles included have been selected and reviewed by experts in the sport and represent the best volumes available. New selections are continually added to keep the collection up-to-date. All income from the ACA Bookservise goes to support ACA, a non-profit, national association, founded in 1880 to advance canoeing and kayaking opportunities through programs of education, instruction, river and lake protection, and competition at local through international levels.

For further information and a copy of the new catalog, write Joyce Malone, Executive Secretary, Box 248, Lorton, Virginia 22079. □

Enjoy big savings: subscribe to *Virginia Wildlife*!

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by Hassell Taylor

Travels with Maria



Radio telemetry is one of the management tools being used to gain information on the "king of the game birds"—but, in this case, she's a queen.

Beep. . .Beep. . .Beep. . . Then, silence from the radio receiver. The sound of footsteps in the leaves continued as the gang of turkeys moved over the next ridge less than 100 yards away. Quantico Marine Corps Major Bill Windsor turned the radio receiver off, hoping that he could locate the turkey hen next week, but a feeling persisted that the small radio unit she carried was dead. After 29 months of following the travels of "Maria," our radio transmitter-equipped wild turkey hen, we hated to lose her signal. The tiny transmitter mounted on a harness between her wings had a battery life expectancy of 18 months when attached October 10, 1977, but it had continued to operate for nearly a year after that.

The final signal was heard on March 11, 1980 just nine days short of 29 months. Since about the middle of December, the signal had become progressively weaker. Designed to operate at a maximum of about three miles its range diminished to about 100 yards with the signal becoming erratic and hard to locate.

Why all the concern over one little radio mounted on a wild turkey? It all started in 1977 when a study was designed to gather data on turkey populations east of the Blue Ridge. One phase of the study involved equipping 10 turkey hens with radios on Quantico Marine Corps Base (QMBC) and Fort A.P. Hill, and following them as long as possible to determine their home ranges. That task proved impossible, since we needed only adult hens and were unable to trap adult birds. We had to settle for "Maria,"

trapped on QMBC in 1977. In the fall of 1978, on September 18, we succeeded in trapping one adult hen on Fort A.P. Hill. However, fate was against us: a turkey hunter killed that hen illegally on opening day of the fall gobblers-only season. He cut the harness and left the radio lying on the ground. We found it after the signal position did not change from November 14 to November 28.

Having been unable to transistorize the number we had planned, we were particularly pleased when Maria's radio continued to transmit. Fixes on her position were taken by triangulation (taking three bearings on her signal from 3 different locations and plotting on a map where they intersect) at least once each week.

Keeping track of her became especially interesting after the first year because no other researchers using radio telemetry had kept track of one bird for that long. She was tracked through three fall and two spring hunting seasons and two nesting and brooding seasons. We know that she had a gang of nine young with her when she was caught and they remained with her until March 1978. She hatched a brood in the spring of 1978, but we were never able to determine the exact number. In 1979 she was observed on two occasions with another hen. The first time, on June 14, 1979, there were 21 and the second time, 11 days later, there were 19 young. When we tried to catch her in January 1980 to replace the radio battery, she still had nine young birds with her. This was after a very successful 1979 fall either-sex turkey season. Her home range was open to



Researcher takes a compass reading in the direction of Maria's radio signal

turkey hunting during the season and was hunted often. Her home range during the 29 months was a kidney-shaped area about three quarters of a mile wide and slightly over one mile long. On only one occasion was she located outside this range which fell mostly within the south fork of the Chopowamsic Creek drainage. On that occasion, she moved about one mile outside her normal range, but was back the following week.

During her nesting periods, she restricted her range to less than 500 yards. Nests both years were within about 1,000 yards. Her brood range varied with the availability of insects. In 1979 during a tremendous swarm of cicadas (17 year locusts), she kept her brood in an area of about 500 yards square until the locusts died; then she resumed ranging throughout her established range. During the three fall-winter periods (October to March), her range varied with the weather. If the ground was open, she moved back and forth over most of her established range, but when heavy snows fell, she appeared to move into the thicker pine stands where she had more protection.

Her home range was made up of a variety of cover types, including pine, pine-hardwood and hardwood stands from pole size to mature timber. There are about two miles of access road running through the area. There are some small clearings and the FBI firing ranges are located on the south end of her range.

Is this typical of a wild turkey hen's range? It would be nice if this were true, because her range was only about one square mile. The hen we instrumented September 18,

1978 on Ft. A.P. Hill had a similar type range. She stayed in the same drainage, ranging over an area a half-mile wide by one mile long (one half square mile). Both hens appeared to have ranges that furnished all their needs for the periods for which they were observed.

On September 9, 1980, a third hen was instrumented on Ft. A.P. Hill and was followed weekly until June 3, 1981. She was found dead after three fixes on different days located her in the same spot. The skeleton was intact and the left leg and wing were broken. Since she was only about 50 yards from a road, we believed she was hit by a vehicle.

In contrast to the small range of the other two hens, she had covered an area triangular in shape about two miles by three and a half miles by four miles, an estimated three and a half to four square miles.

By use of radio telemetry, the normal range and activities of a wild turkey hen can be determined, but the information is limited if only one bird is involved. In the future, if we can instrument several hens at once, much information relating to nest site preferences, food, water, cover and range requirements can be determined in a short period of time at low cost. Such information would be invaluable in improving conditions for this "king—or queen—of game birds." □

Hassell Taylor is a game biologist with the Commission's game division.



Bird of the Month

by Carl "Spike" Knuth

Eastern Meadowlark

Anyone with an interest in birds is familiar with the story of how the wild turkey was favored by Benjamin Franklin over the bald eagle to be the national symbol of our country. Few people, however, know that many individuals in those days favored the meadowlark. After all, the meadowlark is a bird of the Americas, found only in this hemisphere. This, and the fact that it is common, beautiful and greets each morning with its cheerful song, made it a candidate.

The eastern meadowlark is 10 inches long; it is plump, with a brown-streaked back and a yellow breast with a broad black vee. Its size, shape and physical characteristics resemble those of the common starling, but there the resemblance ends. On the lower part of its belly it is white or buffy and its flanks are streaked. The top of its head is alternately striped with black or dark brown and buff or creamy yellow. Its short tail has white outer feathers which is a very distinctive field mark when it takes flight. Females are a bit smaller and paler but of similar colors.

A bird of open country, it prefers grassy, weedy fields. Somewhat long-legged, though not as a sandpiper, the meadowlark walks almost chicken-like, moving its head forward and

back, much like the starling. Its flight is half-fluttering, half-sailing—usually low—as its short wings beat vigorously, interrupted by brief periods of sailing with wings outstretched and held slightly downward. Its flight style is not unlike that of the pheasant or quail. One of its other names is "marsh quail" and it was in fact hunted and eaten in the early days of our country. Other names include crescent stare (for its vee-shaped breast marking), field lark and old field lark.

It does seem to prefer "old" fields that are not consistently farmed. A shy bird, it locates in areas in which it can command a wide view of its surroundings. One thing it is not shy about is its singing. It is an energetic singer and its song is usually among the first to be heard in spring. Sitting atop posts, stumps, poles or the tip of a tree, its high-pitched whistled notes carry for long distances. It also utters a gutteral, chattering call, usually as a warning during nesting.

The eastern meadowlark's nest is built in a slight hollow in dense grass or weeds, constructed of grasses, plant stems and animal hair. It is usually covered by an arch-like roof of taller grasses. Like many other field bird nests, the meadowlark's nest is hard to find. The hen never lands right at the nest, but some distance away. Then she'll walk to the nest. Generally, she'll leave the same way. Close examination of the site would reveal matted-

down grass paths radiating from the nest where the hen has come and gone.

A hiker walking through a field would just about have to step on the little hen before she'll flush from her five white eggs spotted with browns and purples. Once hatched, the young remain in or around the nest for up to two weeks in the protective cover of the grasses until they are able to fly. Meadowlarks feed on a wide variety of insects, specifically grasshoppers, beetles and crickets. In winter, they turn to eating small weed seeds.

The eastern meadowlark breeds from New Brunswick west to Central Ontario; south to Florida, the Gulf Coast and Northern Mexico. It generally winters south of a line from southern New Jersey, the Ohio Valley to Kansas. However, some may stay north all winter, though their numbers are small and often they don't survive.

Its close cousin, the western meadowlark, is found from the Midwestern prairies to the Pacific Coast. It is a little smaller and paler with spotted, rather than streaked flanks. It is best distinguished from the eastern by its call which is strikingly different, though indescribable. Many movie "westerns" have used the call of the western meadowlark for background sound.

In Virginia, eastern meadowlarks are common winter residents in the salt marshes and agricultural lands of the coasts and around the large tidal rivers. □

This year marks the
200th anniversary of the
eagle's selection as our nation's
symbol, so the National Wildlife
Federation has declared "We Care
About Eagles" its theme for
Wildlife Week 1982.

*We Care
About
Eagles*



The Year of the Eagle

NATIONAL WILDLIFE WEEK MARCH 11-20, 1982

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